

The Metaverse Concept: what could it mean for a more digital future?



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Introduction

What exactly is the Metaverse and should investors care?

The term “metaverse” – a combination of the prefix meta (“beyond”) and universe – was first introduced in Snow Crash (1992), a sci-fi novel by American writer Neal Stephenson. He described a virtual 3D world where avatars, that is, digital representations of real people, lived.¹ The idea of a metaverse has been the subject of much popular discussion in recent months but it remains somewhat nebulous. In broad terms, it is the concept of a digital representation of human interaction that includes aspects of social media, networking and online gaming, often supported through augmented reality (AR) and virtual reality (VR), along with the use of cryptocurrencies and digital assets to allow participants to interact virtually and natively within this environment.

Matthew Ball, a venture capitalist who has written extensively on the topic,² has suggested that the metaverse can bring a “fourth wave” to computing, following those linked to mainframe computers, personal computers and mobile devices.³ “It’s

about being within the computer rather than accessing the computer. It’s about being always online rather than always having access to an online world”⁴

The idea of a metaverse relies on many elements working together seamlessly if they are to offer a virtual reality experience that resembles the physical world. For example, high-speed connectivity to enable digital worlds to feel immersive and be accessible via free/paid applications or platforms on a range of device types, powerful computers, virtual and augmented reality headsets (to superimpose elements of the digital world onto the participants’ real world), microphones and motion-sensing controllers (to facilitate interaction) and technologies like haptic gloves (to allow users “feel” virtual items).⁵

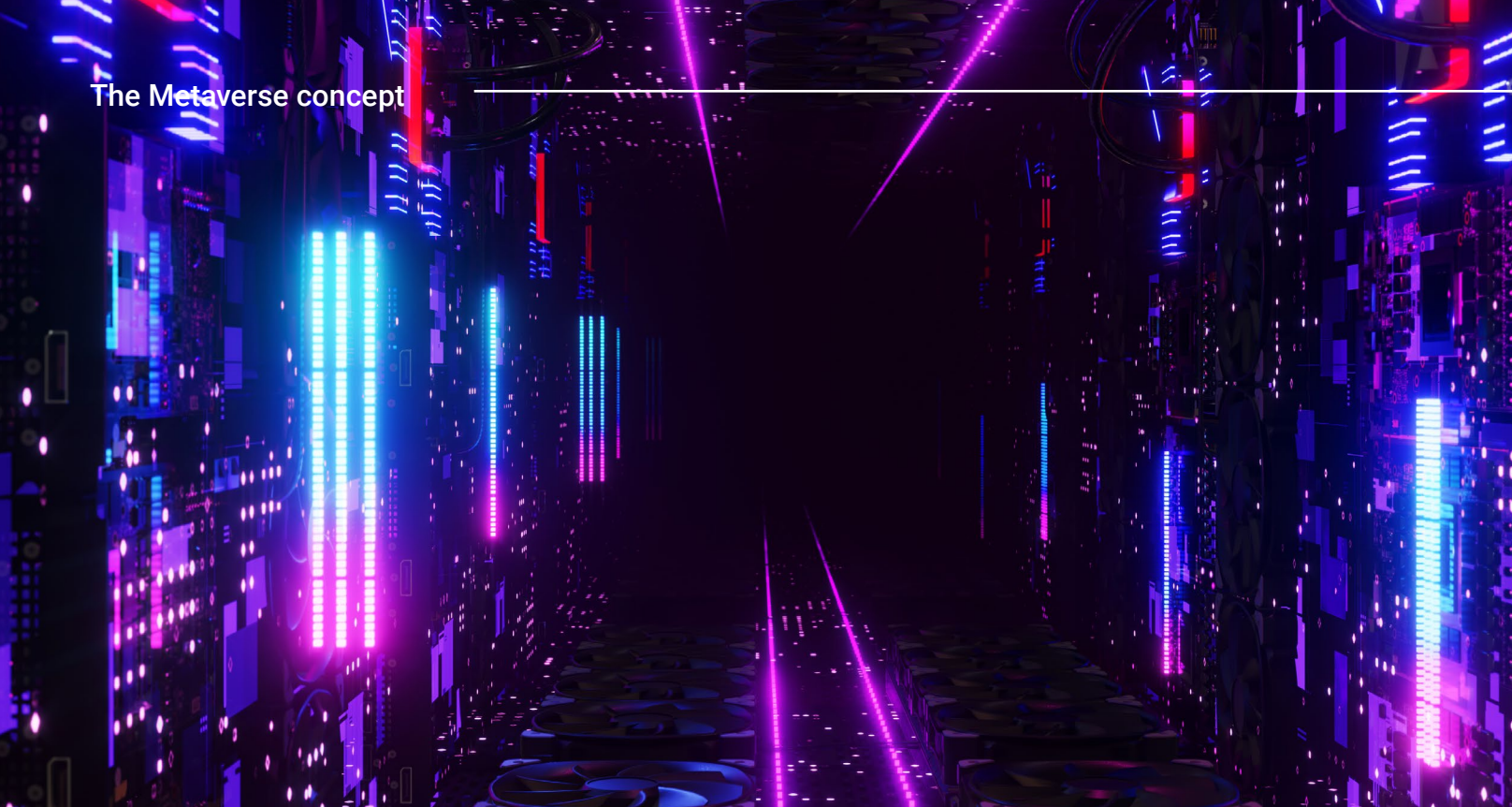
1 CNBC. 2021. [This 29-year-old book predicted the ‘metaverse’](#).
2 MatthewBall.vc. 2022
3 NY Times, 2022. [What’s All the Hype About the Metaverse?](#)
4 NY Times, 2022. [What’s All the Hype About the Metaverse?](#)
5 The Guardian, 2021. [Enter the metaverse: the digital future Mark Zuckerberg is steering us toward](#); Vox, 2021. [Facebook’s freaky new glove](#).

How is the metaverse reshaping the digital economy?

In this vision of a virtual world, the idea is that a person’s avatar engages in a wide range of social and professional interactions: hanging out with friends and family; immersing themselves in games; taking fitness classes; shopping; attending gigs, concerts or watching movies; and holding virtual work meetings at the office.⁶ The metaverse is not envisaged as separate from the real-world economy: rather, advocates forecast it to become an extension.⁷ That is, we will be able to purchase digital goods (music, movies, games, apps) as well as physical-world items. In other words, the metaverse could enable companies and individuals to interact economically as they do today but will provide more possibilities and more connections. In the metaverse, the idea is that we will be able to “create, trade and invest in products, goods and services”.⁸

McKinsey has projected that retailers will not only sell physical products in the metaverse, but also virtual versions of their products.⁹ Today, if one buys music on a CD, then the retailer may give access to a digital copy – or a digital copy of a book (and supporting materials) may be free with a hardcopy version, especially in education. In the future, when consumers buy a physical world item, like some branded sportswear, they might also gain or be encouraged to pay for ownership of a linked NFT (non-fungible token) version in the metaverse – or be able to decorate their avatar.

6 The Guardian, 2021. [Enter the metaverse: the digital future Mark Zuckerberg is steering us toward](#).
7 World Economic Forum, 2021. [What is the metaverse and why should we care?](#)
8 World Economic Forum, 2021. [What is the metaverse and why should we care?](#)
9 McKinsey. 2021. [Imagining your customers’ possible futures: A Design x Foresight approach](#).



A NFT is a claim of ownership for a unique, non-interchangeable digital asset that is recorded on a shared digital ledger (blockchain), similar to how cryptocurrency transactions are recorded.¹⁰ If NFTs were to become widely adopted for trading metaverse goods, whether for avatars' "skins" or tickets to metaverse-based events, then that could accelerate the integration between the digital economy and people's offline lives. The metaverse also offers companies a great opportunity to test their products and reduce R&D costs and market uncertainty.¹¹

Inter-operability is often considered to be key to the growth of the metaverse.¹² That is, the ability of avatars to use virtual items in different metaverses or platforms, as is the case in the real world.¹³ Today, virtual identities and inventories

are restricted to use within one platform. To move between different metaverses while carrying objects, it would seem critical to have a unique ID. Crypto wallets could be connected to our physical identity to facilitate transactions that require legal verification.¹⁴ Via a link of the ID to the wallet, login requirements for all the websites and virtual worlds could be satisfied.¹⁵ ID-associated wallets would also be a way to control access to age-restricted areas in the metaverse.¹⁶ Equally, the use of a single ID in this way presents many challenges related to security, privacy, impersonation, personal choice, compartmentalisation and identity theft.

Other experts like Joshua McKenty assert that it will only be a true metaverse when there's enough money being exchanged inside it for

it to be considered its own economy.¹⁷ For the emerging metaverse economies to be secured against hackers and fraud, they would have to be encrypted and protected, likely meaning that any money exchanged will need to be verified via a blockchain protocol. In principle, by selling highly sought-after digital objects, such as digital clothes¹⁸ or art¹⁹ with low physical or marginal cost, the financial opportunities may seem attractive. That has certainly been the appeal to digital creators.²⁰ However, the early experience of NFT markets for digital art has also seen widespread theft and fraud,²¹ while in the music world, there has been much scepticism on valuation of the benefits linked to fractions of streaming royalties, for example.²²

- 10 "Bitcoin and cryptocurrencies: The arrival of a new asset class?" and "The Blockchain Future: Security, Trust and Individual Control?" MSCI Thematic Insights, 2022.
- 11 McKinsey. 2021. [Imagining your customers' possible futures: A Design x Foresight approach.](#)
- 12 Citi were reported to have sized the 2030 total addressable market (TAM) between USD 8 trn to USD 13 trn in a 31 March 2022 research report while Goldman Sachs estimated the TAM to be USD 12.5 trn in December 2021, based on a third of the digital economy migrating to the metaverse. <https://www.fnlonondon.com/articles/metaverse-market-could-swell-to-13tn-citi-says-20220401>
- 13 Wired, 2021. [What Is the Metaverse, Exactly?](#)
- 14 Ratan, R. and Meshi, D. 2022. [The metaverse is money and crypto is king – why you'll be on a blockchain when you're virtual-world hopping](#)
- 15 Ratan, R. and Meshi, D. 2022. [The metaverse is money and crypto is king – why you'll be on a blockchain when you're virtual-world hopping](#)
- 16 Ratan, R. and Meshi, D. 2022. [The metaverse is money and crypto is king – why you'll be on a blockchain when you're virtual-world hopping](#)
- 17 For example, in 2021, he [excerpted a quote](#) in this context on the definition on a true platform from the 2015 Haystack Transcript of @Chamath at StrictlyVC's Insider Series
- 18 Dolce & Gabbana, [NFTs & The Metaverse](#), 2021.
- 19 NY Times, 2021. [What Will Art Look Like in the Metaverse?](#)
- 20 See, for example, Ocula, 2021. [The Metaverse Is Already Here. How Will the Art World Inhabit It?](#), and the video [Art, \\$\\$\\$ and NFTs \(2022\)](#) and the report [How NFTs became a \\$40bn market in 2021](#) on FT.com
- 21 The Guardian, 2022 ["Huge mess of theft and fraud: artists sound alarm as NFT crime proliferates."](#)
- 22 FT, 2022. [Musicians turn to NFTs in hunt for fresh profits](#)

Has the metaverse already begun?

Proponents have suggested the metaverse presents an opportunity to disrupt all social activity: gaming, health and fitness, entertainment, marketing, education, travel and the world of work. In response, companies have been taking initial steps towards a metaverse presence by hiring into strategic roles or by acquiring companies that are early entrants or experts in the space. An expanding list of companies from sectors such as technology (e.g. Microsoft, Facebook, Apple), gaming (e.g. Epic²³, Unity, Roblox²⁴), fashion (e.g. Dolce & Gabbana²⁵, Adidas²⁶, Nike²⁷) and entertainment (e.g. Universal Music Group²⁸, Netflix²⁹) have been making such efforts.

Gaming companies have arguably been in the forefront of metaverse development: after all, some of the proposed social elements are already to be found in current video games. A typical Fortnite player may spend tens or even hundreds of hours using an avatar (one that can also be customized using virtual currency), moving between different spaces while interacting with - and fighting against - the avatars of other players.

The industry has seen a swathe of deals to support companies in their metaverse strategy, building on the momentum of user growth seen through the COVID pandemic³⁰ and the desire to bring more of life and commerce into digital environments. For example, Take-Two Interactive agreed to buy Zynga in a cash-and-stock takeover worth USD 12.7 billion,³¹ while Microsoft spent USD 68.7 billion acquiring Activision Blizzard, one of the biggest video game holding companies in the world.³²

Meta, the company formerly known as Facebook, has been evangelizing a virtual world where digital avatars congregate, work, travel and are entertained with the use of virtual reality [VR] headsets. According to their CEO Mark Zuckerberg, in five to ten years, our social media experiences will no longer be intermediated by a laptop or phone but instead we will access it via microphone-equipped AR glasses, telling them to contact our family or a friend.³³ They will accept our request and “appear” dressed, ready to join, say, an in-progress yoga class in a corner of the metaverse. No-one is physically present,



but in Zuckerberg’s vision, the virtually connected activity is enjoyed together. His belief (or at least his business plan) is that the metaverse could replace the current internet as we know it, and this is the driver behind the company’s investments in virtual reality, whether the earlier acquisition of Oculus³⁴ or the more recent commitment to spend at least USD 10bn each year in the Facebook Reality Labs division.³⁵ A key question is how much companies see the metaverse as a way to rebuild “walled gardens” and re-gain a lost competitive advantage as the new paradigm for internet access evolves – something that would, of course, be counter to the core idea of inter-operability and also to future social inclusion for digital access to products and services.

23 Takahashi, D., 2022. Gaming will lead us to the metaverse.
24 Takahashi, D., 2022. Gaming will lead us to the metaverse.
25 UNXD: Digital Luxury & Culture NFTs.
26 Adidas, 2022. Into the metaverse.
27 Nike News, 2021. NIKE, Inc. Acquires RTFKT.
28 Metaverse goes Hollywood with Universal Music Group Avatar Partnership
29 Nasdaq, 2022. Netflix Looks Well-Equipped for Transition Into the Metaverse.
30 Forbes, 2022. Inside Take-Two’s \$12.7 Billion Plan To Buy Zynga In The Biggest Video Game Takeover Ever.
31 Businesswire, 2022. Take-Two and Zynga to Combine, Bringing Together Best-in-Class Intellectual Properties and a Market-Leading, Diversified Mobile Publishing Platform, to Enhance Positioning as a Global Leader in Interactive Entertainment.
32 Microsoft, 2022. Microsoft to acquire Activision Blizzard to bring the joy and community of gaming to everyone, across every device - Stories.
33 Medium. 2021. Why You Should Care About the Metaverse..
34 Techcrunch, 2014. Facebook’s \$2 Billion Acquisition Of Oculus Closes, Now Official.
35 The Verge, 2021. Facebook is spending at least \$10 billion this year on its metaverse division.

Sportswear and fashion brands have also been developing “metaverse-ready” business strategies. For example, Nike has filed for patents for virtual goods and the opportunity to build virtual retail environments to sell their products, as well as acquiring RTFKT, a company that creates “virtual sneakers” and other collectibles for the metaverse.³⁶ Fashion brands have started entering the space too: the collaboration of Gucci and Roblox was an example of this.³⁷ During the two-week Gucci Garden Experience event – an immersive experience with multiple themed rooms³⁸- Gucci ‘dropped’ a limited edition of non-NFT virtual bags in Roblox, which sold for \$4,115 (more than the \$3,400 retail value).³⁹

More prosaically, the metaverse may also facilitate remote work with 3D virtual meetings and industry events. Microsoft has outlined a work-focused metaverse that connects its widely-used products in a digital platform called “Mesh”.⁴⁰ The platform enables collaboration with mixed reality, using avatars and the ability for users to project themselves into others’ VR or AR environment.⁴¹ With the growth of hybrid working arrangements, companies could well experiment with some of these emerging technologies to find new and more effective ways to connect their global workforce. At the same time, more virtual events are being organized where their customers can watch presentations and network in hopefully much more immersive ways than the now familiar blur of webinar/break-outroom/chat functionalities. P&G, for example, hosted an event at the Consumer Electronics Show in January 2022, where their customers as avatars moved around a virtual space to assess the company’s latest products.⁴²

36 CNBC, 2021. [Nike is quietly preparing for the metaverse](#); Nike, 2021. [Nike, Inc. acquires RTFKT](#).

37 See [vault.gucci.com/en-GB/story/metaverse](#) and [on.gucci.com/robloxgucci](#)

38 [The Gucci Garden](#).

39 The Fashion Law. 2021. [A Digital-Only Gucci Bag Sold for \\$4,115 on Roblox, as Brands Continue to Look to Gaming to Reach Gen-Z](#).

40 Microsoft, 2022. [Introducing Microsoft Mesh - Here can be anywhere](#).

41 Microsoft, 2022. [Introducing Microsoft Mesh - Here can be anywhere](#).

42 WSJ, 2022. [Tech leaders create proofs of concept for the metaverse](#).



Are consumers metaverse ready?

We have outlined the current popular discussion of the metaverse concept and the tentative steps some companies and industries are making towards it. Moreover, the COVID-19 pandemic and the climate crisis have both been catalysts for accelerated the growth of the digital economy and have increased the appeal of a more immersive and engaging (and less exhausting) digital experience. Yet the path to broad consumer adoption of the metaverse seems uncertain and may take years. Key factors that will likely determine the breadth and speed of a wider acceptance include:

» *Consumer awareness:* At the end of October 2021, more than a third of Americans polled were not aware of the term “metaverse”.⁴³

» *Price, ease of use and value:* The hardware, apps and experience need to work together seamlessly in the ecosystem. Some headsets are unwieldy, and nausea and other physical problems with extended use are often reported.⁴⁴ Apple is thought to be focusing more on “extended reality” devices in the next year or so as part of its strategy.⁴⁵

43 eMarketer, 2022. [What the metaverse means for retail today, and what's in store for tomorrow](#).

44 NY Times, 2021. [Everybody Into the Metaverse! Virtual Reality Beckons Big Tech](#).

45 WSJ, 2022. [Apple's Metaverse Prospects Produce Real Optimism for Investors](#).

- » *Concerns about tech giant ownership:* Suppose the metaverse is realised but is dominated by a single social media giant. One that could get access to even more personal data (despite a poor track record on privacy in the conventional internet), and one that has been accused of failing to stop the proliferation of dangerous misinformation and other online harms that exacerbate real-world problems.⁴⁶ A marketing agency targeting you in a virtual world could use not just demographic data (age, gender), but also your body language, your physiological responses, your biometrics and your personal interactions.⁴⁷
- » *Concerns over the impact on users and their safety and well-being:* What will this mean for social isolation and loneliness?⁴⁸ How will the gamification of all internet activities in the metaverse worlds affect rates of internet addiction and other social consequences?⁴⁹ Will the hardware, software and connectivity requirements create new social exclusion if commercial and government services migrate there?⁵⁰ What new safety policies have to be put in place to protect users from exposure to graphic sexual content, racist and violent language, bullying and other forms of harassment – particularly when this content could be generated in real-time interaction through “bot” avatars rather than fixed content like videos – and almost by design, feel even more invasive and damaging through the immersiveness of the virtual world?



Conclusion

The global metaverse market including games, virtual reality headsets, other emerging gadgets and online services has been estimated to have reached USD 49 billion in 2020 and is forecast to grow by more than 40% in the coming years.⁵¹ The potential is there for great social change (both positive and negative) depending on how much of the current digital economy transitions to this more immersive, virtual world model. People could be able to work together, take classes, socially interact and shop all within the metaverse, and investments by both listed companies and private equity have become significant.⁵² Nevertheless, aside from establishing sustainable social and business models for augmented or virtual reality internet, there remains much progress required in the underlying enabling technologies: hardware, software,⁵³ visual design and audio experience.⁵⁴

46 NBS, 2021. [Facebook whistleblower tells Congress social network is 'accountable to no one'](#)

47 The Guardian, 2021. [Enter the metaverse: the digital future Mark Zuckerberg is steering us toward.](#)

48 A dystopian view of the social disconnection was pursued in the 2009 film adaptation of [The Surrogates](#).

49 See, for example, these three examples from a huge literature on the problems created with the current version of the internet: H. Cash et al, [Internet Addiction: A Brief Summary of Research and Practice](#), Curr Psychiatry Rev. 2012 Nov; 8(4): 292–298; F. Goia et al [Problematic Internet Use and Emotional Dysregulation Among Young People: A Literature Review](#), Clin Neuropsychiatry. 2021 Feb; 18(1): 41–54; O. Lopez-Fernandez [Emerging Health and Education Issues Related to Internet Technologies and Addictive Problems](#) Int J Environ Res Public Health. 2021 Jan; 18(1): 321

50 This exclusion was already magnified during the COVID-19 pandemic: see, for example, in [A Double Burden of Exclusion? Digital and Social Exclusion of Older Adults in Times of COVID-19](#) A. Seifert et al J Gerontol, Series B Psychol Sci Soc Sci 76(3), 2021. One survey of the links between digital and social exclusion is contained in [The role of digital exclusion in social exclusion](#), C. Martin et al Carnegie UK Trust, 2016

51 Emergen Research, 2021. [Metaverse market.](#)

52 Crunchbase News. 2021. [VCs Will Spend Billions More To Make The Metaverse A Reality.](#)

53 Insider Intelligence, 2022. [Hardware is the key to metaverse adoption—software is the key to retention.](#)

54 Forbes, 2021. [Making Money In The Metaverse.](#)

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